AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A method of determining ~~the~~ a rate of replication or destruction of an infectious agent in a host organism, said method comprising:

a) administering an isotope-labeled precursor molecule to said host organism for a period of time sufficient for ~~the~~ an isotope label of said isotope-labeled precursor molecule to become incorporated into a biochemical component of said infectious agent;

b) obtaining one or more biological samples from ~~the~~ said host organism, wherein said one or more biological samples comprises ~~the~~ said ~~infectious agent or said~~ biochemical component of said infectious agent;

c) separating said biochemical component of said infectious agent from said one or more biological samples;

~~c)~~d) measuring ~~the~~ an isotopic content, rate of change of isotopic content, and/or pattern or rate of change of pattern of said isotopic content in said biochemical component; and

~~d)~~e) calculating ~~the~~ a rate of synthesis or breakdown of ~~the~~ said biochemical component to determine ~~the~~ said rate of replication or destruction of said infectious agent in said host organism.

Claim 2 (currently amended): The method of claim 1, wherein said biological sample ~~is~~ comprises a tissue of the host organism.

Claim 3 (currently amended): The method of claim 1, wherein said biological sample ~~is~~ comprises a bodily fluid of the host organism.

Claim 4 (original): The method of claim 1, wherein said host organism is a mammal.

Claim 5 (original): The method of claim 4, wherein said mammal is a human.

Claim 6 (currently amended): The method of claim 1, wherein said infectious agent is selected from the group consisting of bacteriaum, viruses, protozoan, yeast, and parasite[[s]].

Claim 7 (currently amended): The method of claim ~~1~~6, wherein said infectious agent is human immunodeficiency virus, hepatitis B or C virus, or other clinically important virus.

Claim 8 (currently amended): The method of claim 1, wherein said biochemical component is selected from the group consisting of DNA, RNA, protein[[s]], lipid[[s]], carbohydrate[[s]], and porphyrin[[s]].

Claim 9 (original): The method of claim 1, wherein said isotopic label is selected from the group consisting of ^{13}C, ^{14}C, ^{2}H, ^{3}H, ^{15}N, ^{35}S, ^{11}C, and ^{35}P.

Claim 10 (original): The method of claim 9, wherein said isotopic label is ^{2}H.

Claim 11 (currently amended): The method of claim 1, wherein said one or more biological samples comprises ~~further comprising collecting~~ a plurality of biological samples from said host organism.

Claim 12 (currently amended): The method of claim 1, wherein measurement of ~~the~~ said isotopic content, ~~and/or pattern or the~~ rate of change of isotopic content, and/or pattern or rate of change of pattern of said isotopic content in ~~the~~ said biochemical component is performed by mass spectrometry.

Claim 13 (currently amended): The method of claim 3 wherein the fluid is selected from the group consisting of urine, blood, saliva, interstitial fluid, edema fluid, lacrimal fluid, inflammatory exudate[[s]], synovial fluid, abscess, empyema, cerebrospinal fluid, sweat, pulmonary secretion[[s]], seminal fluid, fece[[s]], bile, and intestinal secretion[[s]].

Claim 14 (withdrawn): A method of identifying an antimicrobial or immunostimulatory effect of a drug agent, comprising:

a) determining the rate of replication or destruction of an infectious agent in a host organism according to claim 1;

b) administering the drug agent to said host organism; and

c) determining the rate of replication or destruction of the infectious agent in a host organism according to claim 1, wherein a decrease in the rate of replication or an increase in the rate of destruction of the infectious agent indicates an antimicrobial or immunostimulatory effect of the drug agent.

Claim 15 (withdrawn): The method of claim 14, wherein the effect of said antimicrobial or immunostimulatory agent on the growth or death of the infectious agent in the host organism is used as a diagnostic test in clinical patient care or as a biomarker tool for drug discovery, development, or approval of an antimicrobial or immunostimulatory agent.

Claim 16 (withdrawn): A method of identifying an antimicrobial or immunostimulatory effect of a drug agent, comprising:

a) determining the rate of replication or destruction of an infectious agent in a first host organism according to claim 1, wherein the drug agent has not been administered to said first host organism;

b) determining the rate of replication or destruction of an infectious agent in a second host organism according to claim 1, wherein the drug agent has been administered to said second host organism;

c) comparing the rate of replication or destruction of the infectious agent in said first and second host organisms, wherein a lower value for in the rate of replication or an increase in the rate of destruction of the infectious agent in the second host organism indicates an antimicrobial or immunostimulatory effect of the drug agent.

Claim 17 (withdrawn): The method of claim 16, wherein the effect of said antimicrobial or immunostimulatory agent on the growth or death of the infectious agent in the host organism is used as a diagnostic test in clinical patient care or as a biomarker tool for drug discovery, development, or approval of an antimicrobial or immunostimulatory agent.

Claim 18 (withdrawn): A kit for determining the rate of replication or destruction of an infectious agent in a host organism comprising

a) an isotope-labeled precursor molecule, and

b) instructions for use of the kit to determine the rate of replication or destruction of the infectious organism.

Claim 19 (withdrawn): The kit of claim 18, further comprising a tool for administration of precursor molecules.

Claim 20 (withdrawn): The kit of claim 18, further comprising an instrument for collecting a sample from a host organism.

Claims 21 and 22 (cancelled)

Claim 23 (withdrawn): An isolated infectious agent comprising an isotope labeled precursor molecule.

Claim 24 (withdrawn): An isolated infectious agent comprising an isotope labeled biochemical component.

Claim 25 (cancelled)

Claim 26 (withdrawn): An isolated isotope-labeled biochemical component obtained from an infectious agent.

Claim 27 (withdrawn): An isolated isotope-labeled biochemical component made by administering an isotope-labeled precursor molecule to a host organism for a period of time sufficient for the isotope label of said isotope-labeled precursor molecule to become incorporated into a biochemical component of an infectious agent in said host organism to produce the isotope-labeled biochemical component.

Claim 28 (cancelled)